

METHOD AND APPARATUS FOR PREDICTING VEHICLE AIR SYSTEM
PERFORMANCE AND RECOMMENDING AIR SYSTEM COMPONENTS

Abstract of the Disclosure

A method of designing a vehicle air system includes using a computer to simulate operation of a proposed vehicle air system over a time period. The proposed vehicle air system includes an air compressor and a pneumatically operable device. The computer is used to calculate a duty cycle of the air compressor over the time period. The duty cycle is output to a user along with proposed air system modifications. The computer receives data that simulate a proposed vehicle air system, including: (i) data that describe a simulated air compressor of the proposed vehicle air system; and, (ii) data that describe a simulated pneumatically operable device of the proposed vehicle air system. The computer is used to simulate operation of the proposed vehicle air system over a simulation time period. The simulation operation includes: (i) selectively simulating exhaustion of air from the proposed vehicle air system in response to simulated operation of the pneumatically operable device; and, (ii) selectively simulating addition of air to the proposed vehicle air system in response to simulated operation of the air compressor.